AN ANALYSIS OF MELODIC RELATIONSHIPS AND PHRASE STRUCTURES IN PIOBAIREACHD

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ABSTRACT

THESIS: An Analysis of Melodic Relationships and Phrase Structures in *Piobaireachd*

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Piobaireachd is a traditional Gaelic genre of music that is characterized by sophisticated melodic motives and phrase structures. Piobaireachd music is written for traditional Gaelic instruments such as the harp, fiddle, and great highland bagpipe. Parts of piobairechd compositions feature unique qualities that have not been widely explored through an analytical lens. The goal of the analysis of melodic, modal, and structural characteristics of piobaireachd is to identify and speculate on the connections of each characteristic. This information will be useful to both music theorists and performers of piobaireachd music. This thesis focuses on specific sections of piobaireachd music written for the great highland bagpipe from 1760-1841. Through study and analysis of normative aspects of phrase structures and melodies, this paper discusses the presence of sequential melodic motives and their impact on modal characteristics of piobaireachd music. In particular, the conclusive observation was that sequential melodic motives often accompany the use of a double-tonic mode in the theme of a piobaireachd piece. The use of sequences to connect the motivic development of irregular phrase structures was also observed in this study. The methodology that was used to come to these conclusions consisted of a descriptive analysis of primary sources as well as review and content analysis of literature. Developing from simplest to most complex topics, this paper is organized into five chapters. This study is not intended to

be an authoritative approach to interpretation of piobaireachd music, but rather an informative study that will help to develop the analytical approaches to piobaireachd music.

ACKNOWLEDGEMENT

This research has given me the opportunity to explore questions that I have had about piobaireachd since the day I picked up a set of bagpipes. I could not has achieved this work without the guidance of my thesis advisor Dr. Eleanor Trawick, as well as my other committee members, Dr. Murray Steib and Dr. Chin Ting Chan. I want to thank them all for helping me through this process and by providing their insight. I would also like to thank Dr. Timothy Channell and Pipe Major Campbell White for being my bagpipe teachers and helping me understand Gaelic culture.

Lastly, I would also like to thank my friends and family for their support during my entire time at Ball State University. This thesis is the result of my academic development over the past two years. The completion of this thesis has given me tremendous joy and a sense of achievement.

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Chapter 1: An Introduction to the Research of Piobaireachd

Piobaireachd is a traditional genre of music composed for Gaelic instruments such as the harp, fiddle, and bagpipe. This research paper is an analytical study on the compositional aspects of piobaireachd music, specifically for the Great Highland Bagpipe. The goal of this analysis is to make connections between the melodic relationships and phrase structures in piobaireachd. I believe that there are several elements of piobaireachd themes that indicate the use of a mode that is characterized by a double tonic. This paper will consist of a summary of and expansion upon general characteristics of traditional piobaireachd music from 1760-1841. My summary of compositional elements will allow the reader to become familiar with the topic, after which I will analyze melodies and structures of piobaireachd.

The reader of this research paper will need to have a working knowledge of basic musical terms and an understanding of notation. Some terms that are used in discussions of functional harmony will be used in the discussion of piobaireachd modes and melodies, but will have different meanings. Because this genre stems from an oral tradition, many terms are in Gaelic.

The music of the Great Highland Bagpipe can be divided into two larger categories, *ceol beag* and *ceol mor*. *Ceol beag* is the type of music that audiences are likely familiar with as it is often performed by an entire pipe and drum band at events such as festivals or parades. *Ceol mor* is also referred to as piobaireachd—often appearing abbreviated as pibroch—and is generally more complex in terms of embellishments, melody, and form. This research will also use analysis based on the studies of authors such as Frans Buisman, Roderick Cannon, and

Simon McKerrell. Scholars such as these use specific methods to analyze Scottish traditional music and pibroch as a more narrow and independent genre of music than the common-practice classical repertoire. Both music theorists of tonal harmony and bagpipe performers—referred to as pipers—could use the information from this research paper. Music theorists can further connect and expand on the characteristics of pibroch music to come to meaningful conclusions. Pipers can use the information from this research paper to influence their interpretations and understand the structures of the music that they perform.

I have chosen to analytically study the topic of pibroch music because it is a combination of two of my greatest passions. Music theory and musical analysis has greatly impacted my life as a cognitive interest. Piping in general has been a serious hobby of mine for several years and has brought great joy to my life. I wanted to investigate the melodic and structural aspects of this genre to dispel the typical assumption that bagpipe music is simple because of the bagpipe's limited range and repetitive melodies. As my research developed, I began to realize the depth and complexity of pibroch as a genre and I believe that I can build on the research of Frans Buisman, Roderick Cannon, Peter Cooke, and many other pibroch scholars.

Despite the growing popularity of piping literature and pibroch, there is only a small amount of theoretical research and detailed analysis. An uncommon yet compelling example of this research is an article by Frans Buisman in the *British Journal of Ethnomusicology*. Buisman analyzes pibroch melodies and categorizes them using his own creative classifications. The ideas presented in this article are helpful in understanding the melodies and modal characteristics of pibroch.[1] Roderick Cannon's book, *The Highland Bagpipe and Its Music,* gives a wide-ranging

[1] Frans Buisman. "Melodic Relationships in Pibroch." *British Journal of Ethnomusicology* 4 (1995): 17-39

overview of the instrument as well as its development in Gaelic and military traditions. Cannon also authored an article that explores the issues of research that are possible concerning pibroch.[2] These sources will help solidify the role of pibroch in the history and repertoire of bagpipes. Simon McKerrell's Ph.D. dissertation is a detailed analysis of competitive piping and presents an in-depth analysis of the modes, melodies, and structure of both *ceol beag* and *ceol mor*.[3] Barnaby Brown's writing is among the more recent scholarly research and analysis of pibroch. In particular, Brown studies pitch collections and melodic motives of traditional pibrochs in his articles.[4]

For this research, my methodological approach will be first to survey and summarize other scholarly writing, and then to proceed to formal musical analysis. It is my hope to develop new concepts and new methods that will assist in understanding, analyzing, and classifying examples of *pibroch*. There are a variety of genres of pibroch music such as lament, salute, and march. I will investigate several of the various types of pibroch to further understand the differences and relationships between these pieces. This analysis will allow me to come to a meaningful conclusion and method for analysis of the melodic relationships and phrasing structures within pibroch.

This thesis will be divided into five chapters which will organize the findings in a logical manner. After this introduction, chapter two will serve as an introduction to the manuscripts and notational aspects of pibroch. This chapter will also explain the general form of entire pibroch

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[2] Roderick Cannon, "What Can We Learn about Piobaireachd?" *British Journal of Ethnomusicology* 4 (1995): 1-15.
[3] Simon McKerrell, "Scottish Competition Bagpipe Performance: Sound, Mode, and Aesthetics," (PhD diss., Royal Conservatoire of Scotland & University of St. Andrews, 2005), 118-267.
[4] Barnaby Brown, "Data Underpinning 'A Map of the Pibroch Landscape, 1760-1841,'" 2016.

compositions and how they may vary. At the conclusion of this chapter, I will explain the treatment of ornaments and cadences in pibroch music.

Chapter three will discuss structures of phrases and how pibroch music is organized. This chapter will include the analysis of the typical themes that are present in pibroch and it will also include the analysis of the motivic development and ornamentation in pibroch.

Chapter four will focus on the modal and melodic aspects of pibroch music. In particular, I will define several scales, pitch collections, and modes that are commonly used in pibroch themes. I will also cover other melodic devices such as the use of sequences and cadences.

Chapter five will draw conclusions from the information presented in the previous chapters and use these connections to analyze pibroch music that is significant to those topics. Specifically, this chapter will use the gathered information to observe the melodic relationships in pibroch music as well as the structure of phrases. Lastly, I will discuss my findings and what the conclusive information might be used for.

The organization of these five chapters will inform the reader and present an analysis and discussion of the information. It is my intention for the chapters to have a natural progression from simple to sophisticated topics and ideas for the clearest delivery. As popularity of pibroch develops, studies such as these will bring clarity and appropriate interpretation to the phrasing, the melody, and the style of traditional pibroch music.

Chapter 2: History of Manuscripts and Notation

This chapter will serve as a brief introduction to pibroch manuscripts and notation. I will describe various characteristics of pibroch music to give context for later stages of this research. I will begin with a short introduction to the notational components and analytical considerations of pibroch music. At the conclusion of this chapter, I will discuss the role of ornaments and cadences in pibroch music.

Stemming from an oral tradition, pibroch manuscripts have presented some inconsistencies for researchers. At the start of the nineteenth century, there were a minimum of three colleges of piping. From these colleges, the three groups began to compile an inventory of the first manuscripts. The colleges of the MacCrimmons, MacArthurs, and Rankins were at the forefront of the piping world and most pibroch can be traced back to them.[1] Several other individual pipers added to the repertory individually until the formation of the Piobaireachd Society formed in the early part of the twentieth century. The Piobaireachd Society printed their own settings of pieces for use in competition and by 1925 they had compiled a critical library of works.[2] Because of the numerous settings of pieces over more than a century, researchers should consider the possibility of inconsistencies and inaccuracies that can be present in the various transcriptions.

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[1] Peter Cooke, "The Pibroch Repertory: Some Research Problems," *Proceedings of the Royal Musical Association* 102 (1975): 98.
[2] Roderick Cannon, "What Can We Learn about Piobaireachd?" *British Journal of Ethnomusicology* 4 (1995): 4.

Along with the issues of notation, the nomenclature of pieces also varies greatly throughout the different manuscripts. In an article from 1975, Peter Cooke specifically cites the piece *MacDonald of Kinlochmoidart* as being titled a lament in some manuscripts and a salute in others.[3] The significance of this confusion pertains to the stylistic approach of the performer more than it does to an analyst. Laments and salutes are genres of pibroch music along with various others like battles, gatherings, and marches. All of these genres are guides for performers to be able to determine appropriate tempo, style, and overall mood of a piece. There is some evidence for correlation between genres and "keys" of a piece primarily from the research of Joseph MacDonald.[4]

Throughout this paper I will be referencing and using transcribed examples from the Angus MacKay manuscript. I am choosing this manuscript since many later transcribers and editors use his work because of it's reliability. This manuscript was compiled 1830-40 when Angus MacKay (1813-1859) was the principal piper to Queen Victoria, from 1843 to 1854.[5] With almost 200 pieces, this manuscript is one of the largest assembled during the nineteenth century. The notational style of this work is characterized by the standardized and simplified approach to ornamentation which allows for rhythmic consistency. Though I have chosen to use predominantly this single manuscript, the inconsistencies of genres will not significantly impact my findings because those stylistic characteristics do not critically impact the melodic components or structure of a pibroch. The traditional pibroch music found in the manuscripts is always organized formally in what can be considered theme and variations. The theme is also

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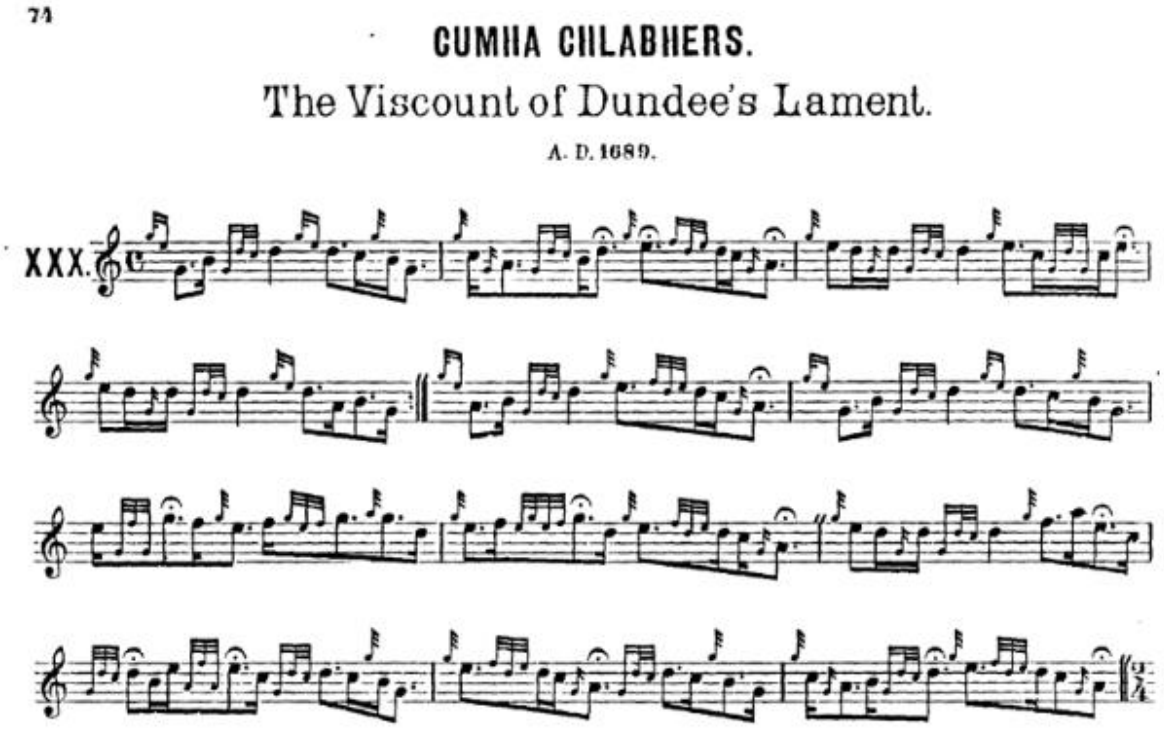
[3] Peter Cooke, "The Pibroch Repertory: Some Research Problems" *Proceedings of the Royal Musical Association* 102 (1975): 94.
[4] Ibid, 96.
[5] William Donaldson, "Mackay, Angus (1813-1859), Collector and Editor of Highland Bagpipe Music," *Oxford Dictionary of National Biography,* 2004.

referred to as the ground or, in Gaelic, *urlar*. In comparison to the variations, the ground is the most melodically and rhythmically active part of the pibroch. The ground also typically features the greatest variety of grace notes and serves as a melodic outline for the variations.

The issues of notation will be explained in depth in chapter 4, but when F natural and C natural are notated, they are actually to be played as F# and C#. The bagpipe is not a chromatic instrument so it cannot physically play F natural or C natural. Therefore, some manuscripts do not write out the key signature, like in the example below and the "key" is assumed by the performer. The ground of the piece below is notated with a time signature of 4|4, but pibrochs are traditionally played with extreme *rubato* and the interpretation of a single piece can vary significantly. Much of the time, the meter of a pibroch ground is indeterminable because of the *rubato* used in the interpretation. There are also many common stylistic elongations of specific grace notes that interfere with the perception of the meter or rhythm. The most common formulation for interpreting grace notes that I have observed is that, when there are two or more notes included in the group of grace notes and they all share the same notational duration, all notes are played at an equally rapid speed. An example of this would be the group of grace notes in example 1, m. 3, [G-D-G] that split the two C# melody notes. In contrast, when grace notes with two or more notes that have different durations within the grouping, the note with the longer duration will be played exceptionally long. For instance, in m. 1 the note E of first set of grace notes [G-E] would be held unexpectedly longer than notated.

Example 1: The ground of The Viscount of Dundee's Lament

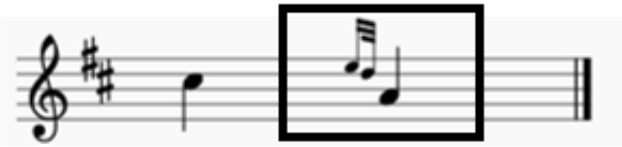


Many notational symbols have a different meaning in pibroch than they would have in other music. In example 1 (above) there are several fermatas as in mm. 2, 3, 5, etc. In pibroch, fermatas are most often included to indicate stress of a specific pitch and should not interrupt musical flow. In the case of two consecutive notes with fermatas over them, as in m. 2, the typical interpretation is that one note is lengthened and one is shortened. For the analyst, fermatas can be an indication of pitches that are important within a phrase or even an entire ground.

Another compositional element that is an indication of significant pitches and phrases is the use of cadences. Cadences consist of both melody and grace notes. The simplest and most traditional cadences consist of three notes in which the cadence descends from a grace-note E to another pitch, then a melody note, most commonly ending on the tonic. (See Example 2.) There

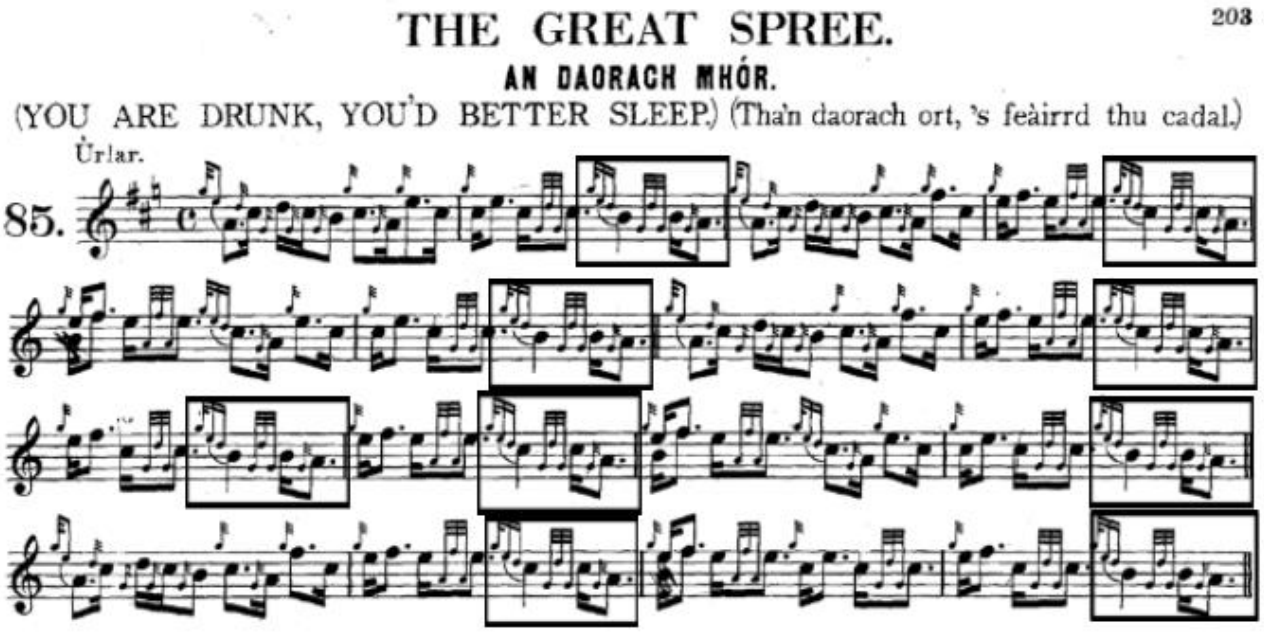
are numerous and somewhat endless variations of this cadence, but they are significant because they typically end phrases, more specifically ones that are important.

Example 2: An example of a simple cadence



Cadences typically take place at the end of a phrase and therefore, pieces that have irregular phrasing, like *The Viscount of Dundee's Lament* will feature irregularly occurring and generally fewer cadences than a piece that follows a strict phrase structure. Identifying individual phrases and the overall phrase structure is another part of recognizing formal organization of pibroch music. Repeating cadences can help define where different phrases begin and end. The outlines in mm. 2, 4, 6, etc. from *The Great Spree* are examples of cadences that complement the ends of phrases. (See Example 3.)

Example 3: *The Great Spree* with outlined cadences

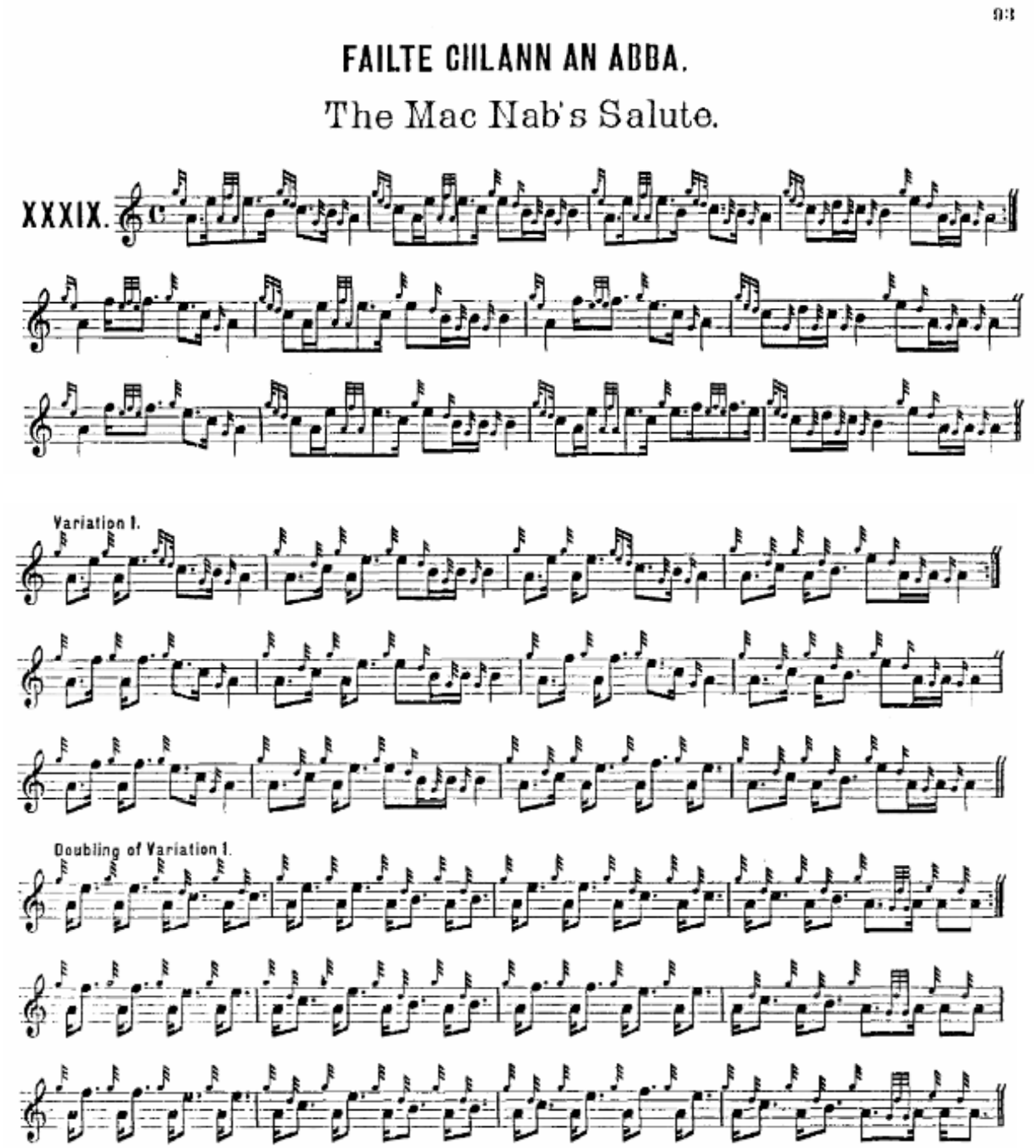


As shown by my annotations in *The Great Spree,* some cadences can be more complex than the simpler three-note cadences. In the examples outlined above, the same basic formula of descending melody and grace notes to the tonic is used. The grace notes and, as in this piece, the melody notes can vary in each iteration of a cadence, but it should maintain the same rhythmic or intervallic elements each time it is played. More complex cadences are often a feature of a more sophisticated ground which will also be reflected in the variations that follow it.

Depending on the grace notes that are featured in a variation, the variation may or may not strictly follow the melody that was presented in the ground. Pibroch pieces are typically performed for competition and performance from memory so the more closely the variations follow the outline in the ground the more convenient for the performer.[6] Unlike the ground, variations are performed in a strict meter and they closely follow metrical indications. The ground is most often followed by Variation I and sometimes a Variation II and Variation III. In some cases there are variations also labeled as *siubhal* or *dithis*. Each individual variation is followed by what is called a Doubling, which is a repetition of the variation that is either an exact repetition or a simplified version of the variation.

[6] Seumas MacNeil and Frank Richardson, *Piobaireachd and Its Interpretation: Classical Music of the Highland Bagpipe* (Edinburgh: John Donald Publishers, 1987), 39-47.

Example 4: The ground, Variation I, and Doubling of Variation I from *The MacNab's Salute*

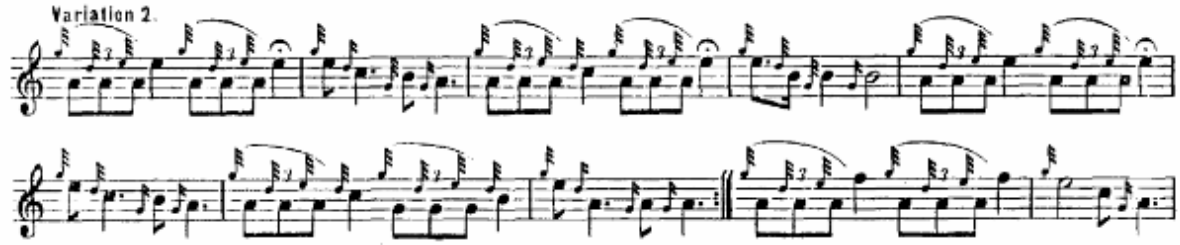


As shown in the example above, the melody of the ground and variation I of *The MacNab's Salute* are very similar, but the grace notes of the variation are simpler. Following Variation I is its Doubling, which features a constant rhythm of sixteenth-note–dotted-eighth-

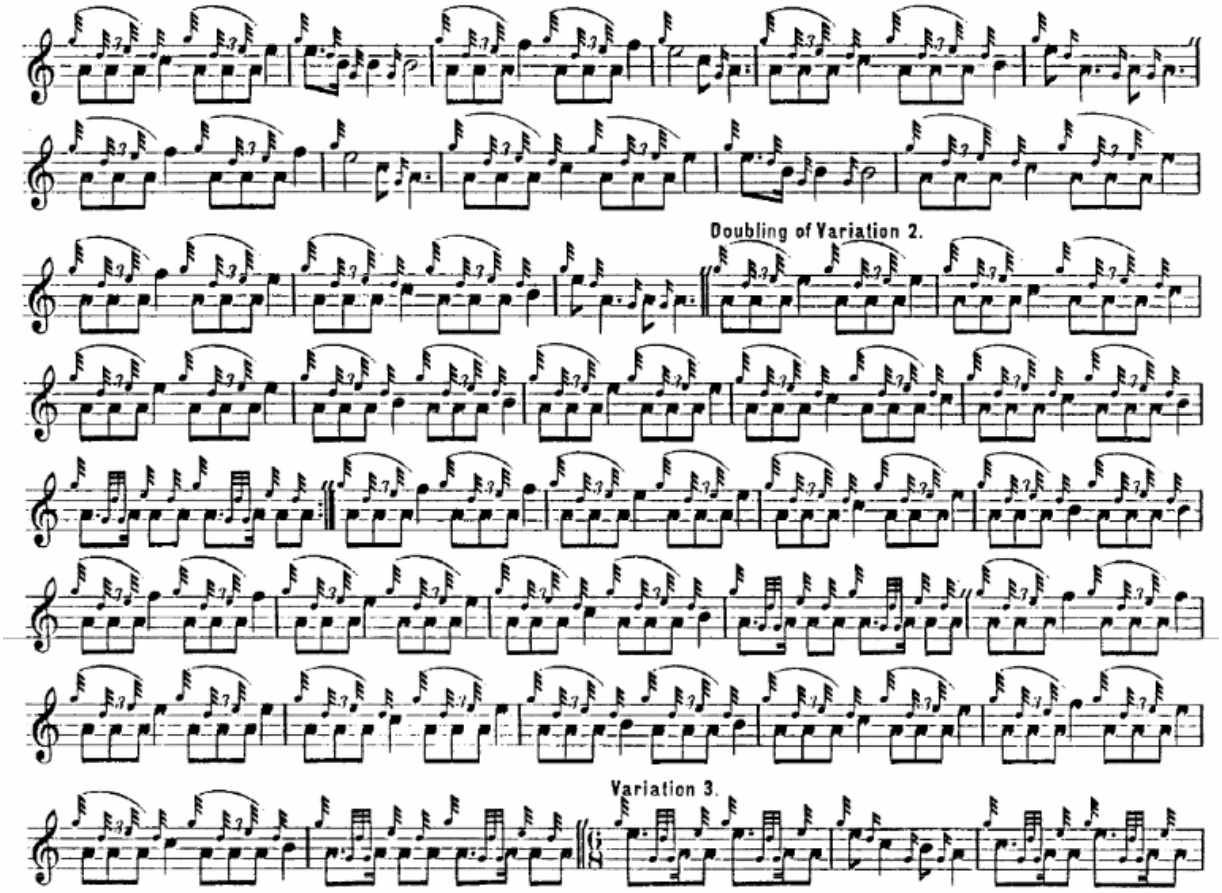
note, except for the last two beats of each line. This Doubling is characterized by low A being played on the beat without exception. Therefore, the melody of the Doubling is somewhat different from that of Variation I in order to maintain the same rhythmic integrity.

Variation II of *The MacNab's Salute* alters the melody again to feature different rhythmic characteristics as well as a specific set of grace notes. This variation in particular features a set of grace notes that are usually referred to as G-D-E's. Represented in beats one and three of each measure in this variation, G-D-E's refer to the three single grace notes of G, D, and E being played in succession, most often on the same melody notes. They also most commonly appear in triple meters or notes grouped in threes like the triplets above. Variation III is conceptually the same as Variations I and II so I will move on and discuss the final variation.

Example 5: Variation II and Doubling of Variation II or *The MacNab's Salute*

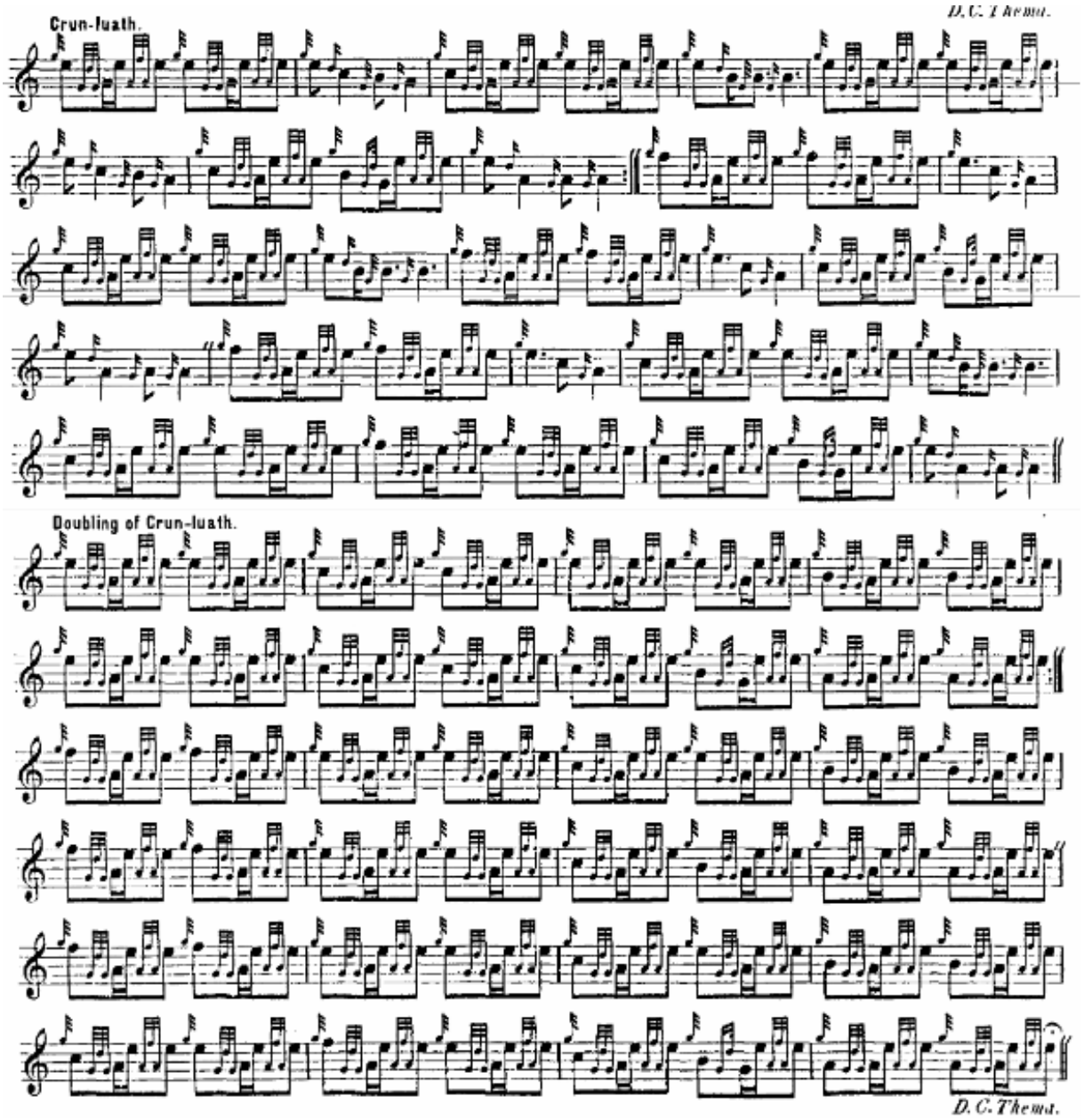


Example 5 (continued)



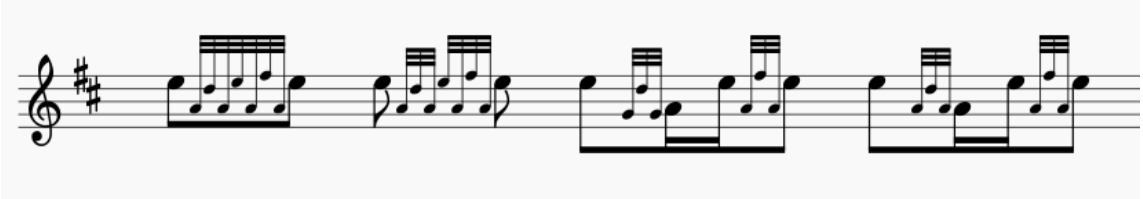
There are variations—such as example 6 below—that are referred to by the specific grace note(s) that are present throughout them. Common variations of this type are the *taorluath, crunluath, and leumluath*. These groups of grace notes can be presented in many different ways with notation.

Example 6: The Crunluath Variation of *The MacNab's Salute*



The *crunluath* is a seven-note grouping of grace notes that alternates rapidly between either low A or low G and D, E, and F. Example 7, below, shows four of the most common variations of the crunluath in notation. Many grace notes appear differently from piece to piece, but some of the most notable differences are of taorluath, crunluath, and leumluath because they are longer and more complex than two- and three-note groups of grace notes

Example 7: Crunluath Grace Notes

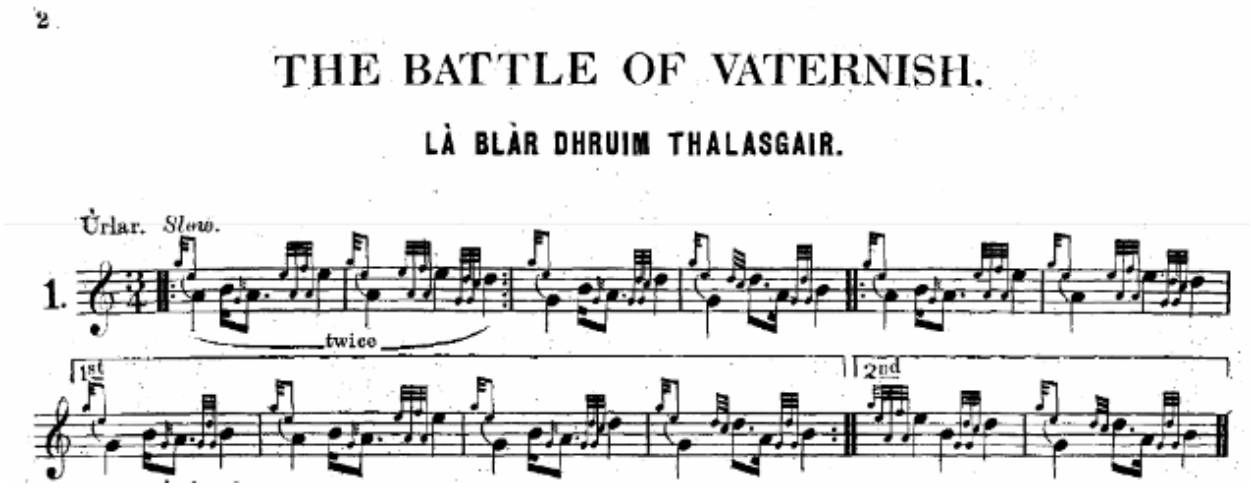


The MacNab's Salute is just one example of how the variations can be presented after the ground. Each pibroch follows its own rules and there is no specific form or requirements for the variations other than they occur after the ground. Some of the variations are extremely different melodically because of the various grace notes and rhythmic aspects. I will analyze the grounds of pibroch pieces since they are the most melodically active part of pibrochs.

In the ground, the grace notes are percussive and are their function is comparable to that of articulations of other wind instruments. They are also not considered to be part of the melody and do not define the scale or collection of pitches.[7] Therefore, the grace notes do not give context for the mode or tonic of a pibroch. Example 8, the ground of *The Battle of Waternish*, does not include the note F as a melody note, but the F does appear as part of a recurring grace-note figure, as in mm. 1 and 2. Though the grace notes' pitches themselves are not part of the pitch collection, the repetitive occurrence, specifically at the ends of phrases or cadences, can help an analyst detect which melody notes are important.

[7] Frans Buisman, "The Systems of Modes in Ceol Mor," 1992, 9-12.

Example 8: *The Battle of Waternish*



In this chapter I have introduced some of the important notational components that will help contextualize several topics that are discussed later in this paper. This analysis has provided the necessary background to some of the aspects of notated pibroch music that are not immediately apparent, such as the significance of rubato and of cadences, and the relationship of grace notes to the overall pitch collection or mode of a pibroch piece. Now that these preliminary topics have been addressed, the following chapters will describe the normative musical characteristics of traditional pibroch music.

Chapter 3: Phrase Structures and Organization of Pibroch

In this chapter I will describe the various phrase structures that have been used as compositional devices in pibroch. This chapter will also define some fundamental aspects of phrase structures such as meter, motives, and their effects on the melodic development of a pibroch piece. This chapter will conclude with an analysis of an example of each structural type.

In this chapter, I will refer to the small-scale melodic segments as individual phrases. The individual phrases are one to two measures in length and the combination of these individual phrases creates lines. Lines can vary in length, but all pibroch grounds are composed of three lines. The organization of the individual phrases and lines will indicate a specific phrase structure. There are seven categories of phrase structures that are commonly used in pibroch music. Knowing and understanding these phrase structures can enable a performer to better understand the music that they are playing. Being aware of and understanding these phrase structures will also help performers with memorization of the piece.

There are several characteristics that must be considered in order to define the phrase structure of a piece. These ideas are explained in several sources, but the research of this paper specifically expands upon the information found in *The Highland Bagpipe Pibroch Tutor Book* by The National Piping Center.[1] Phrase structures refer to the overall larger construction of

[1] Seumas MacNeill and Thomas Pearston, *The Highland Bagpipe Piobaireachd Tutor Book*, (Glasgow: The National Piping Centre, 2017) A3.01-A3.09.

shorter lines and individual phrases. At most, there are four individual phrases in one line of a phrase structure, meaning one line of a phrase structure can be up to eight measures in length.

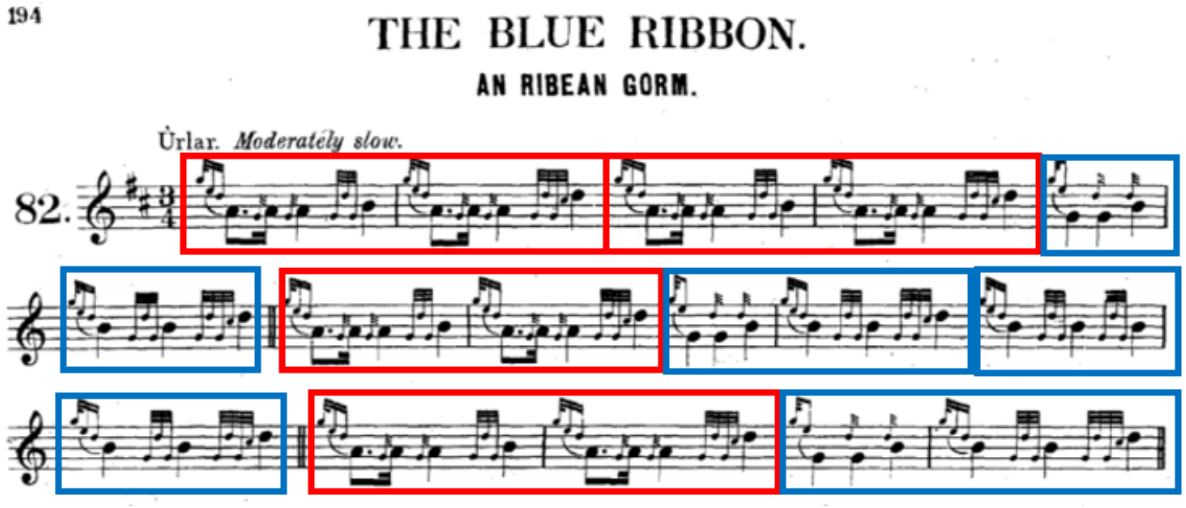
The meter of a pibroch is defined by the number of measures in each line. The meter of a piece is relatively simple and its identification is helpful when determining the overall phrase structure. Each phrase structure follows a specific meter and in many manuscripts the lines are separated by a caesura marking, making it relatively simple to determine the meter. The meter in pibroch is written as the number of measures per line separated by a period.

The first type of phrase structure that I will describe is the primary phrase structure. This phrase structure uses one of the most common meters in pibroch, which is 6.6.4. In the Angus MacKay manuscript—as well as most others—the line are separated by double-bar lines or a similar indication. A meter of 6.6.4 means that the first and second lines of the phrase structure are six measures long and the final line is four measures long. The next consideration is the number of measures in each individual phrase. Determining the individual phrases is a more sophisticated process in which the melody also has to be analyzed. Individual phrases are typically one to two measures in length and often repeat throughout the piece. The individual phrases are referred to by letter and therefore, the primary phrase structure consists of A and B phrases.

Example 9 below, a small part of *The Blue Ribbon,*which is in 6.6.4 meter, is a strict representation of the primary phrase structure. Represented by the red outline, the A phrase is initially stated in mm. 1-2 and repeated in mm. 3-4. After the two iterations of phrase A, the line concludes with a single B phrase, which is represented by the blue outline. Mm. 7-8 is another repetition of A followed by two B phrases in mm. 9-10 and 11-12. The final line is characterized by a single iteration of phrase A and then phrase B. It is possible for the melody to be altered

when it is repeated. In the primary phrase structure outlined below example 9, the phrases that can be altered in general are denoted with an asterisk (*). The only phrase that features an altered melody in this example is the third B phrase, which is mm. 11-12.

Example 9: *The Blue Ribbon* with Structural Outlines



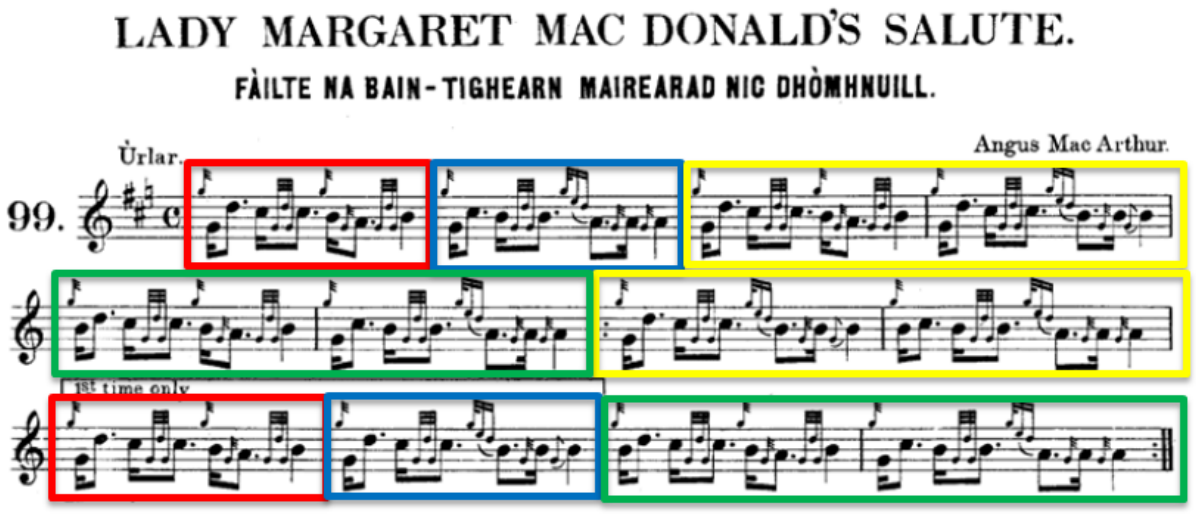
Line 1: A - A - B
Line 2: A - B - B*
Line 3: A - B

The next most complicated structure is the secondary phrase structure, exemplified by *Lady Margaret MacDonald's Salute,* shown in example 10. The annotations that have been added to the example do slightly obscure some of the notational components, but the second A and B phrase are to be played the first time only. This structure has the same meter as the primary phrase structure, which is 6.6.4. However there are four individual phrases and therefore, the individual phrases are different lengths. Phrases A and B are each one measure long and phrases C and D are each two measures in length. An important fact to recognize is that phrase D (enclosed in the green rectangle) will always be the final phrase in a line of this

structure and therefore, the cadence or pitch emphasized at the end of the D phrase is important. The typical arrangement of these phrases in a secondary phrase structure are as follows:

Line 1: A - B - C - D
Line 2: C - A - B - D or C - B - A - D
Line 3: C - D

Example 10: *Lady Margaret MacDonald's Salute* with Structural Outlines



A trend that I have noticed in secondary phrase structures—as well as other structures that have more than two phrases—is that the C phrase is typically an expanded version of the A phrase. In the case of example 10, the C phrase—which is represented by the yellow outline—is related to both the A and B phrase. This relationship is also common in pibroch as the first measure of the C phrase is an exact repetition of m. 1. The second measure of the C phrase is also closely related to m. 2, but by sequence. Sequences appear often in pibroch music and are typically transpositions of a second. The sequences in pibroch vary slightly from the theme and other variations, which is uncommon in classical music.

In pibroch, sequences can take place over several measures, with other musical material in between the sequenced motif. In *Lady Margaret MacDonald's Salute* the sequence begins in m. 2 and is transposed up by one step in m. 4 with a measure of different materials in m. 3.

Another factor of sequences in pibroch is that they often do not continue to ascend or descend by the same interval like a sequence in classical music would. Pibroch sequences often transpose one step away and in the following iteration it returns to the original pitches.

The tertiary A structure is more complex and less commonly used because it has several individual phrases, that are each two measures in length and do not repeat. Each line contains the same number of individual phrases; therefore each line is also the same length. These two features mean that the meter of tertiary A pieces are 4.4.4, 6.6.6, 8.8.8, etc.

The tertiary B structure is similar because its individual phrases and lines are all the same length. In contrast, the tertiary B structure has repetition of individual phrases. Each phrase is one measure long and there are commonly four individual phrases. It is also important to notice that each line ends with the C phrase, which could be an indication of pitch significance.

Line 1: A - B - A - C
Line 2: D - B - D - C
Line 3: D - B - A - C

There are two supplementary phrase structures and they are characterized by repeating individual phrases of A and B. The C and D phrases only appear once, thus making them supplementary to the repeating phrases. The supplementary A phrase structure has a meter of 6. 6. 4. and each phrase is two measures in length. The typical arrangement for supplementary A structures is:

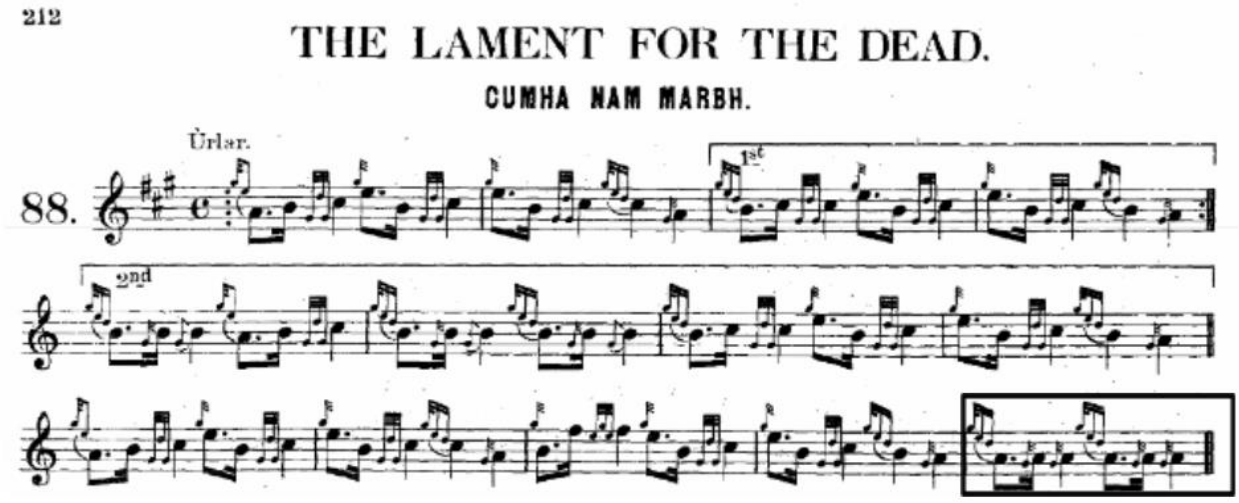
Line 1: A - B - A
Line 2: C - B - A
Line 3: B - D

The supplementary B structure is similar in which each individual phrase is two measures long. There are several unique characteristics of the supplementary B structures. The meter is 4. 6. 4 and at the end of the piece there are one or two measures of *hiharin*. The *hiharin* is not

part of the melody and is typically the last measure or two at the end of the last phrase. (See example 11) The typical structure of the supplementary B structure is:

Line 1: A - B
Line 2: A - C - B
Line 3: A - D - *hiharin*

Example 11: *The Lament for the Dead* with outlined *hiharin*

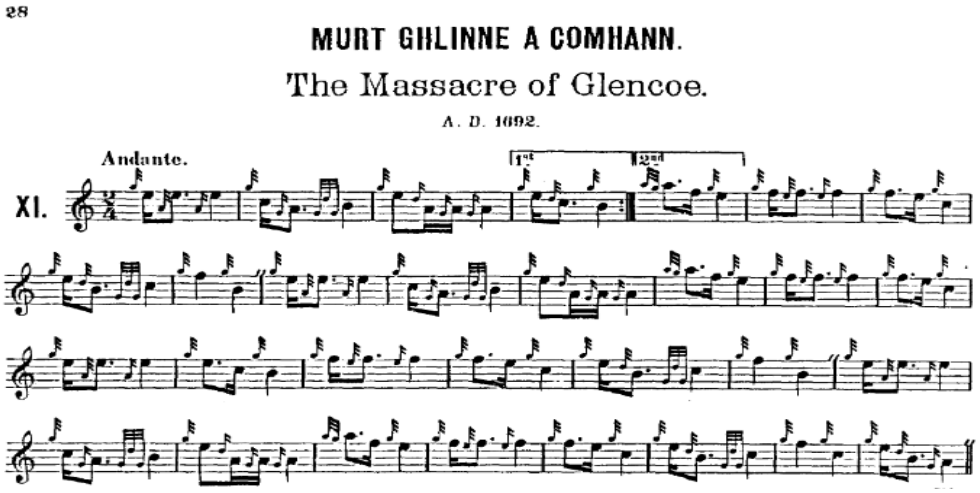


In pieces that follow a supplementary B structure, the last measure of the C phrase is often a transposition of the final measure and features the same rhythm and ornaments as the *hiharin*. In m. 6 of the example above, the second measure of the C phrase is an exact match of the *hiharin*, with the melody notes—but not the grace notes—transposed by one step higher. Though pibroch is a melody-focused genre of music, the association of the C phrase and *hiharin* seems related to the relationship of the half cadence and authentic cadence. In tonal music, the half cadence ends a phrase on a dominant chord, which is unresolved and implies that an authentic cadence on the tonic will follow. A half cadence does not have the same meaning in this context since analytical subjects of pibroch are almost entirely melodic and the concept of cadences in tonal music depends heavily on the harmonic aspects of a piece. The presence of the "half cadence" in pibroch may create the same expectation for another cadence to follow and

more importantly brings emphasis to the two pitches that are used in each occurrence. Other examples of this can be found in pieces such as *MacNeil of Barra's March* and *Lachlan MacNeill Campbell of Kintartbert's Fancy.*

Despite the various and organized phrase structures that exist, there are still pibroch pieces that do not follow established phrase structures. These uncommon pieces are typically included in the irregular phrase structures category. In these irregular phrase structures there are no obvious patterns in melody or rhythm and therefore, the piece does not follow a repetitive nature like the other phrase structures. (See example 12.)

Example 12: *The Massacre of Glencoe*



There are many other characteristics to observe when analyzing the phrase structures of pibroch pieces. As with most tonal harmony, there are various ways to categorize a single pibroch piece by its phrase structure. Since the melody that is outlined in the ground and structure of phrases are interrelated, the variations typically follow the same phrase structures of the ground. On the other hand, some variations do not maintain the exact structure because of

changes in melody to accommodate different grace notes. It is uncommon, however, for a variation to have a different phrase structure from the corresponding ground.

Considering the various phrase structures found in the grounds of pibroch music, they differ a great deal from one another in length and complexity. Despite these differences, identification of each structure allows for the performer to easily understand and memorize a piece. An analyst can draw upon the complexity of a phrase structure and relate the importance of certain individual phrases by where they are placed throughout the ground.

An analysis of the individual phrases and entire phrase structure will further explain the overall melodic and modality of a pibroch piece. Conclusions of melodic emphasis can be drawn by understanding how often an individual phrase occurs and where it occurs in a piece. Being aware of the more complex or even irregular phrase structures might assist in assessing the importance of different pitches and other characteristics that are present in pibroch music.

Chapter 4: Melodic and Modal Characteristics of Pibroch

This chapter will primarily focus on the melodic and modal characteristics that can be identified in pibroch music. I will begin by giving a brief description of the Great Highland Bagpipe and how its construction affects its melodic abilities. The chapter will conclude with a detailed analysis of several pieces that exhibit differing characteristics and how these concepts can be applied to understand the significant relationships of modal and melodic characteristics in pibroch music.

The Great Highland Bagpipe (GHB) of Scotland is a uniquely constructed and ancient woodwind instrument. The bagpipe consists of four parts: the bag, blowpipe, drones, and pipe chanter. The bag is the air reservoir that a player blows into and uses to push air back through the pipes. All parts of the bagpipe can be switched out for different models or types of parts. There are two types of bags, which are typically made from either a natural hide or synthetic material.

The blowpipe is one of the five pieces that attaches to the bagpipe. It is an open cylinder that has a valve that seals when the player is not blowing into the bag so that air does not escape back through the blowpipe. Each piece is attached to the bag in the same way, but the blowpipe is the only pipe that puts air into the bag. The GHB has three drones, one is a bass drone and the other two are tenor drones that sustain one octave above the bass. The last piece of the bagpipe is the pipe chanter which plays the melody. The chanter has eight holes and can play a total of nine notes.

Both the drones and the chanter have reeds that vibrate when air from the bag is pushed through them. The drones use single reeds that are attached by a band to a sounding body, much like a woodwind mouthpiece, ligature, and reed. Manipulation of the band that attaches the reed and sounding body can affect the amount of air that it takes to make the reeds sound. The pipe chanter reed is a double reed and resembles a bassoon reed, but is made of much thicker cane and is therefore louder.

It takes significantly more air pressure to make the chanter reed sound than the drone reeds. Because of this, a bagpipe player will always begin by "striking" the bag after they have inflated it. The goal of this motion is to make all of the drones sound at once. Once the player has established the drones, they must use a combination of blowing and applying pressure to the bag with their arm to then make the chanter sound. This coordination is often very difficult for beginning players and is one of the most daunting skills to master. This is a skill that also takes a great deal of stamina and it is often true that beginning pipers will learn tunes on the practice chanter before they can consistently play them on the bagpipes.

The practice chanter is modeled from the pipe chanter and it requires much less air to play, does not have drones or a bag, and has much smaller holes than the pipe chanter. These characteristics allow for a beginner to develop the kinesthetic skills they need to play the music without the interruptions from the physical demands of the actual instrument. The relatively low requirements to play a practice chanter also make it an effective tool for long practice sessions and pipe band rehearsals.

The music of the Great Highland Bagpipe is a result of this distinct construction and the sophisticated style in which the composers wrote the pieces. No matter the distinction between *ceol mor* and *ceol beag,* all types of piping music have some common factors. Unlike many

modern woodwind instruments, the range of the bagpipe is non-negotiable and very limited. This limitation means that there are only nine notes available and that is reflected in the melodic choices composers made. The air reservoir system of the bagpipe does not allow for the instrument to articulate by interrupting the airstream. In other wind instruments the player is able to make many stylistic decisions that have a great effect on many aspects of a piece by articulating in various ways. Though pipers cannot interrupt the airstream, they can interrupt the sounding note by adding grace notes. Just like the articulations of other wind instruments, grace notes are used to stylistically characterize the melody.

The style of phrasing is another distinctive feature of bagpipe music. Phrases in piping music might not be as obvious to an audience as they might be in Western classical music because of the lack of ability to take a silent pause or natural breath. In *ceol mor,* phrasing is highly sophisticated and often requires significant study of the structures within a pibroch piece to be able to identify them. There are a number of other individualized differences that pibroch music features in contrast to music of the variety of chromatic instruments that exist, but these are some of the most important considerations when understanding how and why the melodic relationships and structures of phrases exist in pibroch.

Much like the instrument's physical properties, its harmonic properties are also very interesting. The tuning system of the GHB has very similar ratios to that of the equal temperament system, but the frequency is noticeably different. The second lowest note of the pipe chanter—which is an octave above that of the tenor drones and two octaves above the bass—is variable among pipers, but usually rests around A=470 Hz. This pitch is higher than the

usual A=440 Hz of most chromatic instruments and is closer to Bb=466.16 Hz.[1] This difference is not a major concern though because much of the time bagpipes play with other bagpipes and various unpitched percussion.

There is a small disparity among pipers as to the appropriate or preferred tuning of this low A. This difference in preference is likely because of the British Brass Band movement, in which pipe bands likely needed to adjust more closely to the tuning pitches of those Western Classical instruments.[2] This trend in tuning is presently true for pipe bands as well as the solo piper in pibroch competitions who tune their instrument anywhere between A=460Hz and A=485Hz. There are other various alterations—which I will not describe in great detail—that can be made to the GHB that allow it to play with chromatic Western European instruments, among other things. Some manufacturers make reeds for the drones and pipe chanter that will make the pipes easily adjustable to a concert Bb= 466.16 Hz.

Though these adjustments are convenient and open various avenues for performance, combination with Western Classical instruments is not the originally intended use of the GHB. The altered tuning does not allow for the most resonance or richest timbre, but it does allow for a piper or pipe band to perform with a large number of different ensembles. This orchestration is possible because of the ratios between the notes of the GHB being insignificantly different from the ratios of the same intervals of the equal temperament system.

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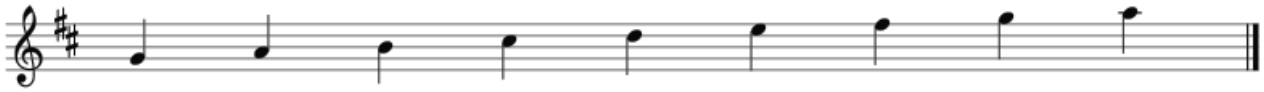
[1] Matthew Welch, *A New Compleat Theory for The Highland Bagpipe (*Benecia, California: Kotekan Edition, 2020) 84.

[2] Simon McKerrell, "Scottish Competition Bagpipe Performance: Sound, Mode, and Aesthetics" (PhD diss., Royal Conservatoire of Scotland & University of St. Andrews, 2005), 107.

The full, playable range of the pipe chanter of the GHB incorporates two modal scales. (See example 13.) The G lydian scale and the A mixolydian scale are both playable on the GHB, but are seldom used in their entirety in pibroch music. There are similarities between concepts of functional tonal analysis and analysis of pibroch music, but the concepts must be applied differently. These differences are important considerations since pibroch music is constructed, organized, and performed in a distinct style that does not reflect the concepts that are applicable to Western Classical music.

Example 13: The scale of the Great Highland Bagpipe



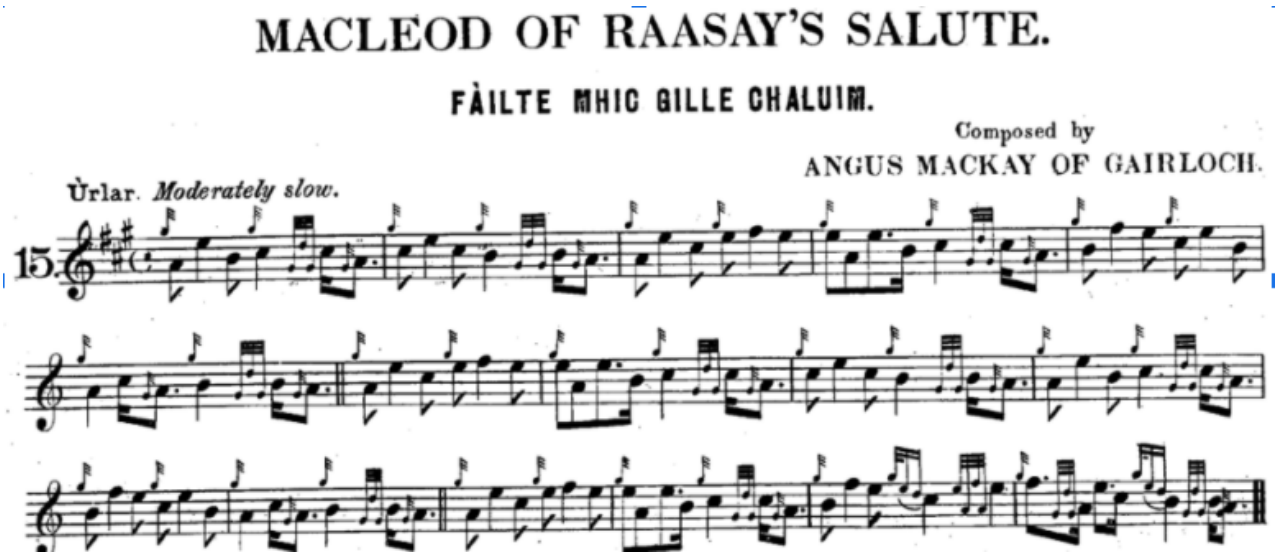
Despite the differences between tonal and pibroch music, they often share similar terms by scholars. The term I will be using to define the overall pitch language of a pibroch piece is *mode.* Mode in pibroch is similar to the concept of mode or modality in functional harmony. I have used this term as a way to categorize relationships in the melodies of pibroch music to the other modal aspects of a piece. Characteristics that determine the mode are the tonic, melodic relationships, and the collection of pitches that are used throughout a piece. The tonic in pibroch is similar to that of tonal music in which the tonic is the tonal center and serves as a note of resolution. The tonic can be determined by analyzing pitches of melodic motifs and occurrence of cadences.

As with functional harmony, triads play an important role in the different chords that are outlined by the melody. Therefore, in the mode of A, the pitches A, C#, and E will occur most often or receive the most emphasis. An extension of this inherent melodic hierarchy is that the interval that is a major sixth above the tonic was also a vital pitch in traditional Gaelic songs and

melodies. Therefore the tonic, third, fifth, and sixth pitches will often characterize a melody of a specific tonic.

For example, *MacLeod of Raasay's Salute* would be a piece considered in the mode of A. This ground follows the secondary phrase structure and the melody almost entirely features pitches that give context to the mode of A. The only pitch that is present in this ground that is not part of the mode of A is the pitch B, which is minimally present in short durations. The cadence that occurs over the last two beats of the final measure also helps solidify the mode and tonic of the piece as A. There are a few issues to be aware of that can be misleading when determining the tonic. First, the drones are tuned to an A one and two octaves below the pipe chanter's low A. The use of the drones does not inherently mean that every pibroch piece has a tonic of A. This concept also means that the melody of the pibroch does not need to end on A, though some do end on A in order to be in consonance with the drones, even though the different aspects of the mode of the piece do not indicate A as the tonic.

Example 14: *MacLeod of Raasay's Salute*

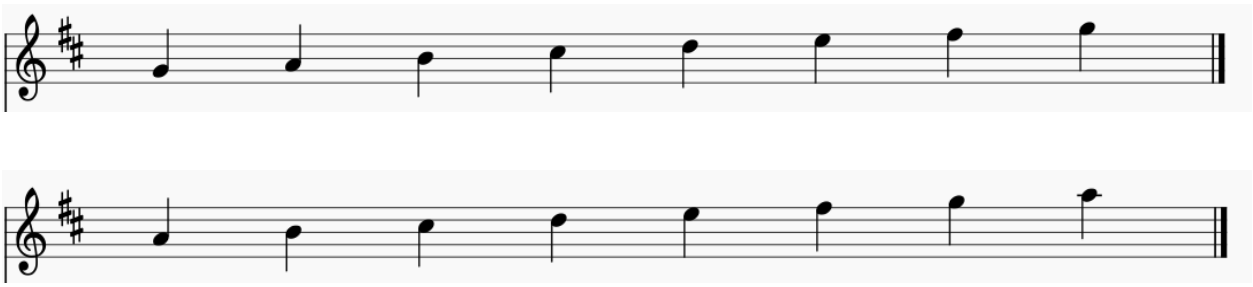


The last characteristic that is vital in determining the mode of a pibroch piece is the collection of pitches that are used throughout the music. These collections are important because they allow the analyst to determine the approach of the composer and how the exclusion of certain pitches affect the overall mode of the piece. These collections are often defined in terms of scales.

There are many scales that scholars have identified in pibroch music throughout the years. Frans Buisman is a scholar of pibroch music and helped to develop and evolve several key concepts for the categorization and critical analysis of pibroch music. During a 1992 Piobaireachd Society meeting, Buisman gave a presentation and answered questions regarding the system of modes in pibroch music. One of the various subjects that he discussed was the use of scales in pibroch.

There are two heptatonic scales that the GHB can physically play. The G heptatonic scale presents all notes between low and high G. The A heptatonic scale is presented in the same manner between low and high A. As the GHB is not a chromatic instrument and is limited to these nine notes, two sharps are often notated in the key signature, but when they are not it is most appropriate to assume that the notes C and F are still C# and F#. The use of either of these scales, in their entirety, is uncommon among pibroch music for a few reasons.

Example 15: The G and A Heptatonic Scales



Buisman refers to this concept of a limited range of melody as the *melodic economy* of a piece and speaks about it at length in his article.[3] Since the majority of pibroch was composed with this *melodic economy* in mind, there are very few pieces that contain a full heptatonic scale. Most often pibroch melodies are limited to five notes, referred to as pentatonic scales. The reason for this further limitation of pitches is that all necessary pitches above the tonic are present in a pentatonic melody. Among the most common pitch collections of traditional pibroch grounds are G pentatonic [G,B,D,E], A pentatonic [A,C#,E,F#], and D pentatonic [D, F#, A, B].

A probable reason for the use of these pentatonic collections is that they maintain a compacted range, even when D pentatonic is used, it seldom incorporates the high A or avoids it entirely. In many pibrochs the first variation is a thumb variation and it—as one could probably guess—involves gracenotes of high A which involves rapid movement of the thumb. Both high A and high G are typically avoided in the ground because they are softer in comparison to the lower notes of the pipe chanter and they present a very different timbre.

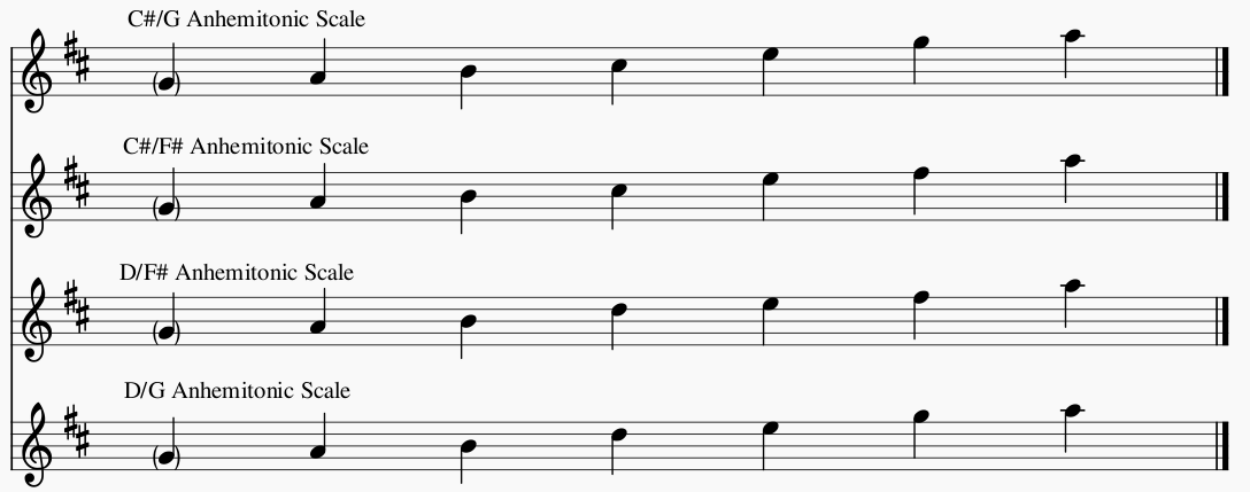
There are two other commonly used types of scales or pitch collections in pibroch music. The anhemitonic and monohemitonic scales are by far the next-most popular among the pitch collections in pibroch music. In pibroch, anhemitonic scales are defined by their complete lack of minor second intervals. Monohemitonic scales incorporate one extra pitch and are defined by their single minor second interval.

Since there are only two intervals of a minor second possible on the GHB, there are four possible anhemitonic scales. Therefore in one anhemitonic scale both C# or D and F# or G are to

[3] Frans Bruisman, "Melodic Relationships in Pibroch," *British Journal of Ethnomusicology* 4 (1995): 21.

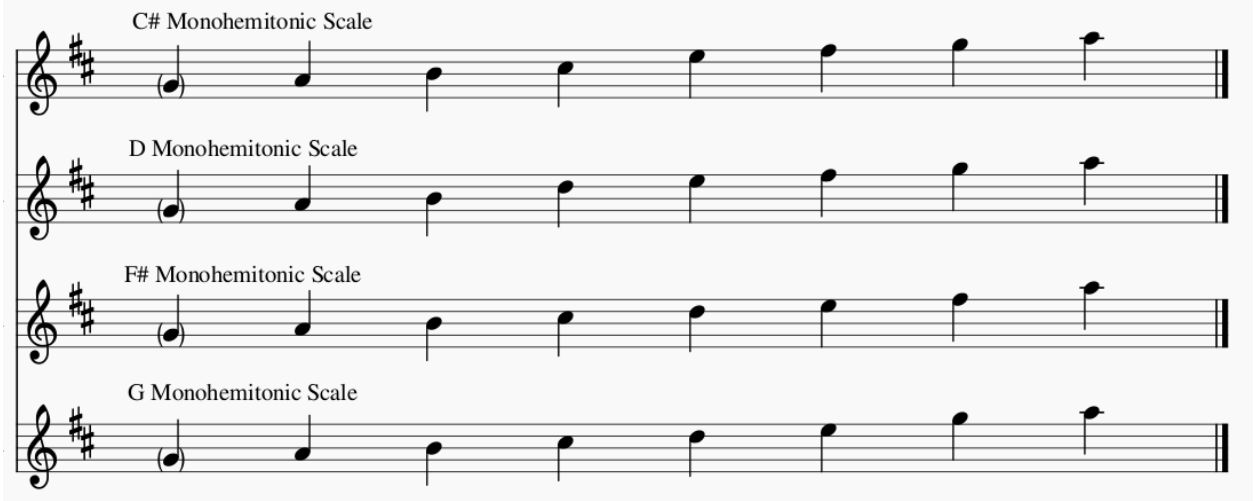
be excluded. In the example below, I have defined the scale by the included tones that are in question. For example, the C#/G anhemitonic scale excludes the pitches D and F#. Though they are an octave apart and are technically the same note, low G and high G have a different function. Low G often functions as either a kind of leading tone to A or is used in sequences. Therefore, as shown in the example below, the low G is not considered to have the same implications as the high G and is therefore, possibly present in all of the scales without interfering with the overall pitch collection.

Example 16: Anhemitonic Scales



There are also four possible monohemitonic scales since they incorporate one pitch more than the anhemitonic. The interval of a minor second is added to each of these collections. I have defined them in reference to the included pitch of the two notes that are in question. Therefore, the C# monohemitonic scale includes all possible notes on the GHB except the note D, as shown in the example below. There are a number of other scales available to the pipe chanter, but the ones that have been discussed are most relevant to the analysis of modes in this paper.

Example 17: Monohemitonic Scales



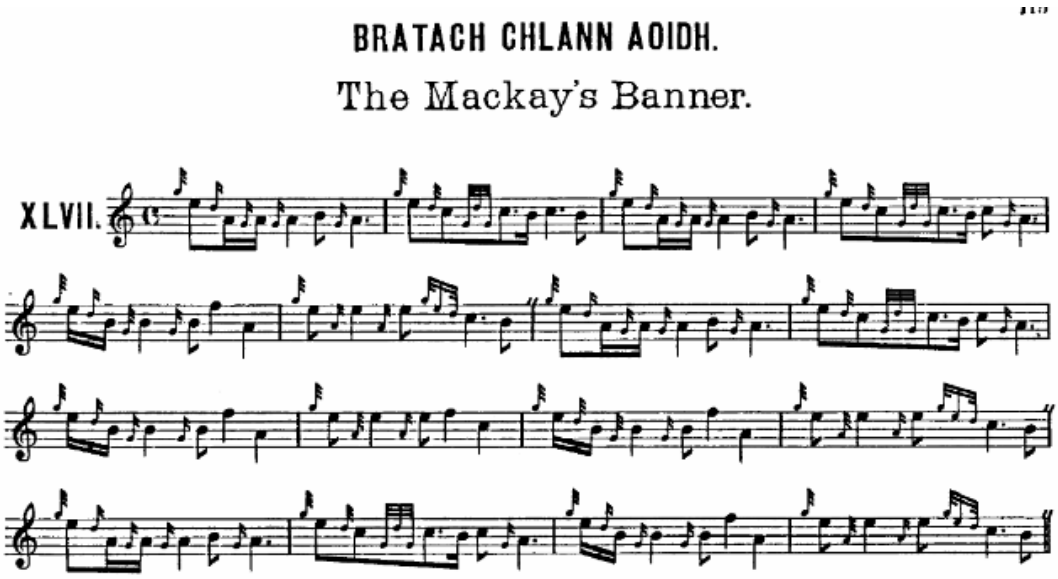
A single tonic or even an entire mode is not always obvious in a piece. There are some pibrochs that make use of what is referred to as a double tonic in which two pitches could be equally perceived as the tonic. Like the single tonic pieces, there are several characteristics an analyst can identify to help determine the tonics of a piece with a double tonic. Buisman describes some of the melodic relationships to consider when determining the tonic, or what he refers to as the *taste* or *style* of a pibroch piece.[4] When two pitches are emphasized by the melody, it is possible that there are melodic relationships of significance within smaller portions of phrases.

Buisman defines some of these relationships as *contrasting pairs* and identifies an example of a contrasting pair in *The MacKay's Banner.* (See example 18) He notes that low G is omitted as this piece uses a very limited, four-note pitch collection [A-B-C#-E]. The mode of this piece is both of A and G, but G is not present throughout the melody. Though this note is omitted, there are still several phrases and pitches that imply the importance of the note G. In m.

[4] Frans Buisman, "The Systems of Modes in Ceol Mor," 1992, 4.

6, there are multiple low A grace notes to the melody note E, which is often referred to as "echoes". Following the echoes on E there is a cadence down to B.

Example 18: *The MacKay's Banner*



Being the sixth above G, the note E is emphasized as well as the note B which is typically the final note of a cadence of pieces in which the tonic is G. Buisman compares the phrases in which notes E and B are emphasized to phrases in which A and C# are the main melodic material. This comparison is compelling since it is one of the few instances in which he compares pibroch melodies to those found in functional tonality.[5] Buisman then states that in contrasting pairs of notes, the lower note (A and B) can be compared to the tonic of functional tonality and the higher note (C# and E) can be compared to the dominant function.

These contrasting pairs are related to the hierarchy of pitches and how they are presented in pibroch music. As previously mentioned, the interval of a major sixth is important and can be an indicator of the tonic, as the piece may end on the note that is a major sixth above the

[5] Ibid, 8.

intended tonic.[6] Determining the hierarchy of pitches is the final integral part of determining the mode of a pibroch piece. To determine the importance of pitches, they must be viewed in their relation to the tonic, scale or pitch collection, and other surrounding pitches.

It is typical for pibroch pieces to cadence or melodically outline a single tonic for the entirety of the ground. It is equally common for the melody to momentarily shift to a different mode, which often creates slight tension that is released when the consonant motives return. These shifts can create a tasteful and pleasant contrast which can add excitement for the listener.

[6] Ibid, 3.

Chapter 5: An Analysis of Sequences and Double-Tonic Modes in Pibroch

This chapter will present a critical analysis of pibroch compositions that vary from the typical melodic and modal style of traditional pibrochs, even though they date from the late eighteenth and early nineteenth centuries. The information that has been presented in the previous chapters is characteristic of pibrochs that were composed between 1760 and 1841.[1] There are certainly newer pibroch pieces that have been composed by twentieth- and twenty-first-century musicians that will be significantly different from a compositional perspective. The analysis and findings presented in this chapter are in reference to the style of traditional pibroch compositions.

The concept and use of two tonics in pibroch is significant to the modal aspects of a piece. The presence of a *double-tonic complex* in classical and rock music means that two different tonics exist simultaneously or equally throughout a single piece. In many pieces, the mode of the melody can seem unstable or ambiguous because it either equally or significantly shifts between two tonics throughout, through sequenced melodies, cadences, or entire phrases. I have observed several related elements and their correlation to the double-tonic complex in pibroch music. One of the primary characteristics that accompany a piece with two tonics is the use of sequences. The sequences often take place over entire phrases, but can also appear in smaller parts of the melody or as cadences. In a piece with a single tonic, similar shifts typically cause tension and release by moving away from and back to the established tonic. However, in a

[1] Barnaby Brown, "Data Underpinning 'A Map of the Pibroch Landscape, 1760-1841'" 2016.

pibroch with a double-tonic complex, the tension and release of phrases are intensely heightened as one of the tonics will be consonant with and the other dissonant with the drones.

My research here follows that of other music theorists who have written about the double-tonic complex in Western European classical music and rock music. The analysis of music that is chromatic and has more vertical complexity than pibroch will obviously reach different results, but the basic concept of the double-tonic complex is the same. In classical music, the double-tonic complex refers to the pairing of two relative keys into one larger sense of tonic.[2] Most often the double-tonic complex is characterized by relative major and minor keys with neither existing as a superior key with no conflict. In an article from 2020, Drew Nobile describes the double-tonic complex in rock music and presents several characteristics of pieces that fall under the category of a double-tonic complex. One characteristic that seemed to be relatable to pibroch music is the presence and use of sequences.[3] There are many similarities of Nobile's analysis and the concepts that Frans Buisman references in his writing.

My understanding of the relationship of sequences and the double-tonic complex expands upon the concepts of contrasting pairs from Frans Buisman's 1995 article. Here he recognizes specific categories of contrast and correlation in the horizontal aspects of pibroch music. Buisman focuses heavily on the melodic contours and how individual motives either contrast or correlate to surrounding groups of notes. He describes a common pibroch melody as moving by stepwise motion which is supplemented by "strings of correlative notes."[4] These correlative

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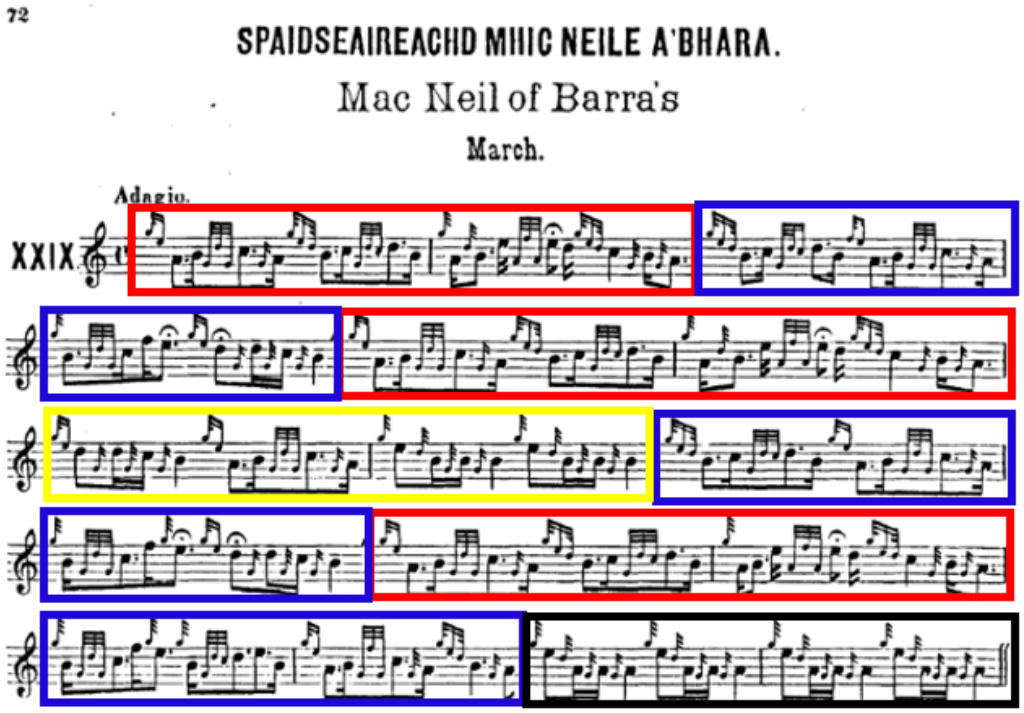
[2] Robert Bailey, *An Analytical Study of the Sketches and Drafts," in Prelude and Transfiguration from "Tristan and Isolde* (New York: Norton, 1985), 121-22.
[3] Drew Nobile, "Double-Tonic Complexes in Rock Music," *Music Theory Spectrum* 42 (Fall 2020): 207.
[4] Frans Buisman, "Melodic Relationships in Pibroch," *British Journal of Ethnomusicology* 4 (1995): 26-28.

notes are primarily composed of thirds and therefore, to Buisman, the typical pibroch melody is characterized by pairs of stepwise groupings and triadic, arpeggiated groupings of notes.

For example, in measure one of *MacNeil of Barra's March* (example 19)—which is an example of a supplementary B phrase structure—the first beat is a pair of stepwise notes moving from A to B. The next beat is a correlative pair of notes as the melody jumps by an interval of a third from C# down to A. Using Buisman's logic, these two pairs can be labeled as a contrasting pair and they reappear, unaltered in each iteration of the A phrase, which is represented by the red outline. Expanding on this idea, one can observe the same intervals, moved up by one step and used in the next two beats of the first measure as well. On a micro level this can be acknowledged as a melodic sequence, but the composer uses the same motive throughout each phrase, but transposed by a step each time.

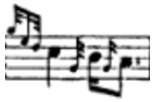
Example 19: *MacNeil of Barra's March*



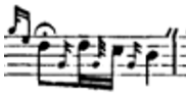
Represented by the blue outline, the B phrase is a sequence of the melody—transposed by one step—presented in the A phrase. This is not an exact sequence since the second group of contrasting pairs in m. 3 are a sequence down by a step instead of up by a step as in the first measure. Composers of pibroch music use this type of fluid sequencing often, most likely because of the limited range of the pipe chanter and keeping in mind the full melodic economy.

The rhythm is also altered in the last measure of the A and B phrase, but the sequence and intervallic relationships of pitches remain unchanged. Each A phrase ends with a cadence to the note A and each B phrase ends with the same cadence, but shifted up by one step. The use of both notes, A and B, as goals at the cadences creates a significance for each pitch.

Example 20: Cadence in Phrase A



Example 21: Cadence in Phrase B



Phrase C is represented by the yellow outline and is related to both the A and B phrase. The first two beats of m. 7 are the same as the end of the B phrase and the last two beats of the measure are the same as the beginning of the A phrase. This is typical of C phrases since they usually incorporate melodic material of previous phrases. The unusual characteristic of this C phrase is that it ends in m. 8 with a figure that very closely resembles the ending hiharin which is represented by the black outline, but in m.8 the figure is raised by a step, cadencing on the note B instead of on an A. Because of its sequential phrases and cadences, example 19 makes use of a double-tonic complex and is characterized by two tonic notes: both A and B.

The sequences continue in mm. 9-14, but this time they exchange order and thus there are an equal number of occurrences of A and B phrases, as well as their sequences and cadences throughout the entire ground. This equal representation of phrases—by use of sequences—is

fundamental in the double-tonic complex of pibroch music. Another indication of the double-tonic complex in *MacNeil of Barra's March* is the end of the C phrase relationship to the hiharin and how it parallels the relationship of the A and B phrase.

The placement and modal aspects of the C phrase in this piece also resemble that of a half cadence that could be observed in Western Classical music. In tonal music, the half cadence ends a phrase on a dominant chord, which is unresolved and implies that an authentic cadence on the tonic will follow. The half cadence does not have the same implications in this context since pibroch requires horizontal analysis, while the concept of cadences in rock and classical music depends heavily on the vertical aspects of a piece.

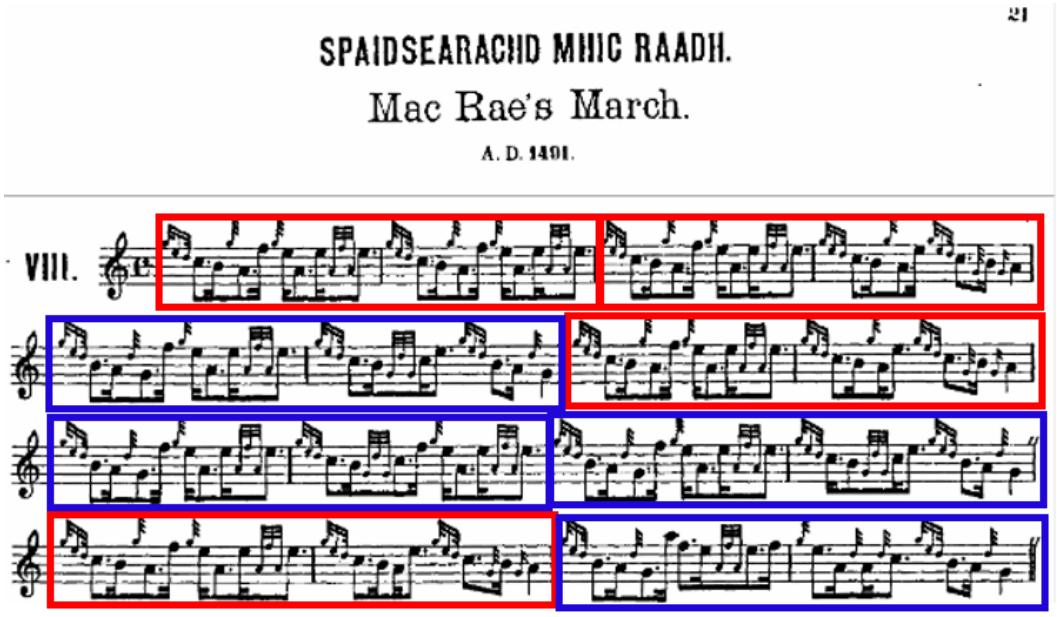
Though cadences rely on ornamentation and are not a harmonic emphasis, there are other characteristics of bagpipe music that resemble the relationships of tonal music. The relationship and importance of equally occurring sequences—like the A phrase and B phrase in *MacNeil of Barra's March*—can characterize the double-tonic complex in pibroch music. Therefore, the C phrase does not function as a half cadence, but equally represents a melody and mode centered on B, while the hiharin represents that of an A centered melody and mode.

MacNeil of Barra's March is a strong, yet uncommon example of sequences and the double-tonic complex in pibroch. The pibrochs that strictly follow a supplementary B phrase structure by definition represent A and B phrases equally while being divided symmetrically by a C phrase. Primary phrase structures also have an equal number of A and B phrases. *MacRae's March* is a piece that follows a primary phrase structure closely, but has alterations of phrases that are unusual. (See example 22)

There are two phrases in this march that are different from the others. The first A phrase in mm. 1-2 and the second B phrase in mm. 9-10 are closely related, as only the first three notes

are altered. The last two beats of each measure in these two phrases are primarily centered on the note E, which is an important pitch in both A and G modes and therefore, gives no specific context that would argue for one tonic note or the other. The first three notes of all of the phrases are sequenced in the same way, but the other phrases also use sequences of the last three notes. The last two beats of the phrases—other than the phrases that end on E—are also cadences and therefore lead to the tonic. In A phrases—such as in mm. 3-4—pitches that are significant in the mode of A are outlined and the phrase ends on A. A similar melodic formula, but descending to a G, is used to end the B phrases that do not end on E.

Example 22: MacRae's March

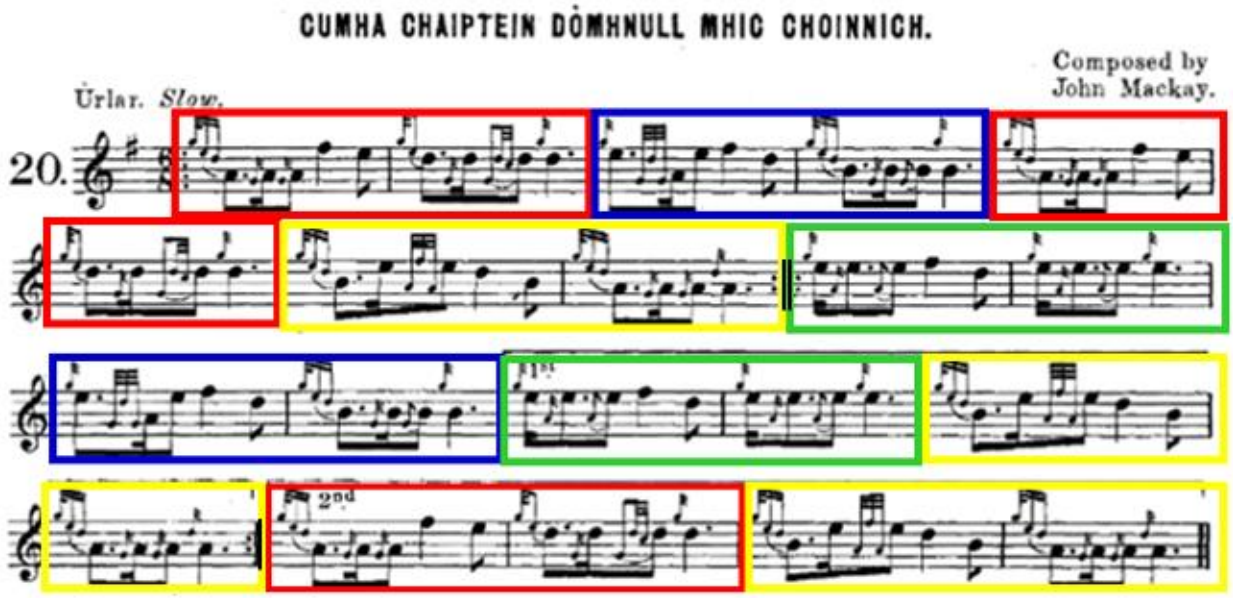


Because of the equal treatment of A and G as tonics in their respective phrases, this piece uses the double-tonic complex to establish A and G as equally-existing modes. This mode is also often referred to as G/A mode in pibroch literature and is the most common double-tonic complex modes. Other significant factors of this piece is the use of an unusual pitch collection of the C# monohemitonic scale, which only excludes the pitch D. This march also reaches

unusually high in tessitura for a pibroch ground, as a high A is played in the penultimate measure.

It is possible that the G/A mode is the most common double-tonic complex in pibroch since it has significant tension and release as phrase endings move between being dissonant and consonant with the drones. Another piece that features significant tension and release is *Captain Donald MacKenzie's Lament.* (See example 23)

Example 23: Captain Donald MacKenzie's Lament



This lament closely follows a tertiary B phrase structure, but is ambiguous in its modal aspects. (The reader should note that the colored rectangles around the phrases have obscured repeat signs that I have thus added back. There are repeat signs between mm. 8 and 9 as well as mm. 16 and 17.) There are four individual phrases that each share the same rhythm, but the melodic sequences do not follow a strictly changing interval. Phrase A occurs five times (counting the repetitions) and the melody is characterized by a leap from A to F# and then descends to E for a short duration in which the phrase then ends with a full measure of multiple grace notes on D. Phrases B and C both happen four times, but are melodically contrasting. The

B phrase is composed of many of the same pitches as the A phrase and is like an extension of the A phrase, because both phrases use a pitch collection and cadence that would be typical for a pibroch in the mode of D. The D phrase is represented by the green outline and occurs three times. Phrases C and D are somewhat related by melodic contour and their cadences end a fifth apart, on two notes that would both be typical in the mode of A.

By considering the modal centers of the phrases and the total occurrences of each phrase, both modes are significant. The A-centered phrases occur fewer times than the D-centered phrases, but not significantly. This piece does also begin and end on the pitch A, which is an indication of that pitch's importance. Therefore, I believe *Captain MacDonald MacKenzie's Lament* is characterized by the double-tonic complex and can be classified as being in a D/A mode.

Sequences in pibroch music do not inherently indicate the existence of the double-tonic complex. There are certainly many compositions that use sequences either of one specific mode or minimally incorporate motives of different modes for contrast. The double-tonic complex is relevant when two tonic or modes equally exist. As in *Captain MacDonald MacKenzie's Lament,* phrases that indicate the different modes can occur unequally while each mode is still equally important. The examples of sequences that I have described all share the same or similar rhythmic contours. This focus on notation is not always indicative since pibroch grounds are performed with a lot of rubato and the sequences may not be immediately apparent.

The presence of two equal tonics and modes is apparent to the listener because, most often, one of the tonics is consonant with the drones and the other is dissonant. The intentional and repetitive treatment of tension in the dissonant phrases of double-tonic complex pieces is often more significant to the piece than the motives themselves. The significance of anticipation

and the conceptual impact that these multi-tonic pieces have, compared to pieces with a single tonic, cannot be ignored.

A future extension of this study could further analyze each variation and how each phrase develops. Another interesting research project would include more modern pibroch compositions, and could investigate how twentieth- and twenty-first-century composers incorporate the double-tonic complex. In my study of traditional pibrochs, I was unable to discover a piece that uses the double-tonic complex in which one of the modes was not A. I assume this is because the pitches in most consonance with the drones [A, C#, E] occur less often in motives of a piece in G/B or G/D mode. An analysis of any piece that is that extremely irregular and different from the pibroch repertoire would not only be interesting, but give further information on a composer's possible uses of a double-tonic complex.

In pibroch repertoire the double tonic results from the equal significance of two separate modes in one piece. This research has focused on the establishment of the double-tonic complex by sequences in pibroch phrases. The analysis completed in this chapter helps to suggest an important connection between modal pibroch music and tonal classical music. I hope that this final chapter, specifically, will aid a piper who is unfamiliar with these concepts to execute a more informed study and performance of a pibroch piece that uses the double-tonic complex and sequences.

Chapter 6: Conclusions

As stated in the introduction of this research paper, the double tonic in pibroch is dependent upon the melodic relationships and phrase structures that characterize the piece. The use of a double tonic in pibroch is often presented by the use of sequences. The relationships of the double-tonic mode, sequences, and phrase structure is among the many important connections found in pibroch.

This conclusion, as well as other information that has been presented in this study, are crucial in understanding pibroch as a genre. The melodic and modal language used in pibroch music is typically limited, but still sophisticated. Pibroch pieces that use a single-tonic mode often use the drones of the bagpipe as a pedal point, with motives being either consonant or dissonant with the drones. Pibroch melodies that treat two pitches as equally significant are often characterized by two tonics. Though the melodic and modal aspects are not completely reliant upon the organization of a pibroch ground, they often correlate. The more complex phrase structures—such as the irregular and supplementary structures—are created by less repetitive phrases and motives. Though the rhythm and melody are altered more in the complex structures, there are other aspects of the melody of simpler structures that can also be intriguing. The simplest organization of the primary phrase structure consists of only two phrases, but, in the case of *MacRae's March,* the modal aspects are complex.

I have presented these connections and conclusions throughout this paper. These findings allow the reader, theorist, and performer to develop their own thoughts and opinions on this

subject. The expansion of analysis and interpretation from studies such as this will further develop theories and analytical approaches of the pibroch repertory. The findings of this study are not meant to be an authoritative approach to pibroch music. The observations that I have expanded upon are my own and only concern my interpretation of the compositional aspects of the ground. The pibroch pieces that I have analyzed and discussed are from a specific time period, and my conclusions will not be relevant to all pibroch or other genres of bagpipe music.

Glossary

Ceol mor [kyawl mohr] – The literal meaning is “great music” or “big music” and is a term that refers to piobaireachd.

Ceol beag [kyawl buck] – The literal meaning is “little music” and is a term for any highland pipe music other than piobaireachd.

Crunluath [CROON-loo-uh] – An embellishment built off of the taorluath by adding an F# grace note on low A which is followed by an E and can also be the title of a variation.

Dithis [GEE-ish] - Literally meaning two, or a pair, it is a variation of the Urlar or theme of the Piobaireachd. The Dithis generally consists of a series of longer melody notes, separated by short lower notes.

Hiharin [HEE-har-rin] – The final one or two measures of a supplementary B phrase structures.

Leumluath [LEHM-looh-uh] – Is a 3-note ornament (also referred to as a grip) and can also be the title of a variation.

Piobaireachd [pee-BROKH] – Also pibroch or *ceol mor,* a traditional genre of bagpipe music.

Siubhal [SHOO-ul] - A type of Piobaireachd variation, similar to the Dithis. Consisting of a G gracenote to Low A, followed by the theme note. If the theme note is a B or C, it is accompanied by a D gracenote.

Taorluath [TOR-looh-uh] – A complex, 4-note ornament that usually finishes on low A and can also be the title of a variation.

Urlar [OOR-lur] – Also ground, the theme of the tune played at the beginning and developed in variations.

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